BOOK NOTICES

Principles of Genetics

Rapid advances in our knowledge of chromosomal aberrations, polyploidy, giant chromosomes, sex determination, developmental genetics, the effects of various types of selection, and simple applications of tests for goodness of fit have been made in recent years. In their third edition of "Principles of Genetics," Sinnott and Dunn have included up to date discussions of all the above phases of modern genetics. The material is presented with unusual clarity. The order of topics is much the same as in the earlier editions. Excellent problems are given at the end of each chapter. Illustrations and diagrams are numerous.

We have only two adverse criticisms, both of a minor nature. Too much material is given in some of the chapters for the average beginning student to grasp easily. For example, Chapter V, entitled the Expression and Interaction of Factors, includes not only modifications of two factor crosses, but also multiple alleles, modifying factors, multiple effects of a single factor and lethal factors. In many of the problems assumptions are made which are not justified. For example, blue eyes and left-handedness are assumed to be simple recessives. Numerous instances of clear cut simple factor traits, such as albinism and polydactylism are known, and would seem more appropriate as problem material.

The book is an unusually good text for superior beginning students, especially those intending to major in some phase of biology.—*D. C. Rife.*

Principles of Genetics (3rd edition), by Edmund W. Sinnott and L. C. Dunn. xvi+408 pp. New York, McGraw-Hill Book Co., Inc. 1939.

Adult Intelligence

There has finally been composed a good clinical test of adult intelligence; a test based on the development of psychological functions throughout the span of adult years, rather than on the years during which the growth of intellectual capacities is most marked. The direct outcome of this effort is that we may now determine the relative brightness of adults without having to resort to scores whose relationship with the factor of age is undetermined, and therefore of questionable significance.

"The Measurement of Adult Intelligence" is the published account of the logic and method employed by Dr. David Wechsler in constructing the "Bellevue Intelligence Examination." The examination is arranged as a point scale to be administered individually, and is composed of ten tests; five verbal tests and five tests of performance. Scores may be obtained for the verbal or performance aspects as well as for the full scale—depending on the clinical purpose.

The book is divided into three main parts; the nature and classification of intelligence, the description of the tests and their standardization as a scale, and the directions for administering the tests plus statistical appendices and I. Q. tables. Without detracting one bit from Dr. Wechsler's accomplishment, it should be said that pracically all of the principal concepts employed by him have been described before. His main contribution lies in his combination of these features into a practical and sound measure of adult intelligence.

The chief characteristic of the book, as of the examination it describes, is the application of normal frequency statistics to groups arranged on the basis of age and score. Since the function of the I. Q. is to provide an index of relative brightness, the author devises just such an index by measuring intelligence at each age and obtaining standard scores for each year level. The comparable units resulting from this procedure yields an index which has the same function at any age, and therefore "maintains the same meaning throughout the life of the individual." A

similar application of the Probable Error to the problem of classification yields levels such as "normal," "superior" and "defective" which are of uniform significance for any intelligence test at any age.

One of the most interesting of the theoretical sections of the book deals with the problem of mental deterioration. Employing a "rate of change" concept, Dr. Wechsler lays the foundation for a precise method of measuring psychological effects of deterioration. The essence of the scheme involves measurement of the rate of decline characteristic of various test abilities. Since certain abilities are affected only slightly by age (after 25) while others are markedly affected, the relative difference between the two should be the greater the longer the period of deterioration, or the more severe its effects. The author points out, however, that the problem is not as simple as it may appear on the surface. The complications yet to be eliminated concern determination of the limits of normal deterioration, interpretation of the large variations in the deterioration of different individuals (making application to single cases difficult) and determination of differences in deterioration occasioned by the various neuropathic disorders.

In presenting the results of standardization Dr. Wechsler gives adequate proof that the Bellevue scale is reliable as well as valid, since it correlates highly with itself and with the Stanford-Binet. In this connection one point is of special interest. A bi-serial correlation between Stanford-Binet I. Q.'s and psychiatric recommendations gave a coefficient of $.33 \pm .071$. The same procedure using the Bellevue examination yielded a bi-serial coefficient of $.79 \pm .048$. It is obvious, therefore, that the measure of intelligence given by the Bellevue examination, although having much in common with that given by the Stanford-Binet, has a decided clinical emphasis.

The book is a clear account of that which the author has thought and done, and leaves few questions to be asked.—*Milton M. Parker.*

The Measurement of Adult Intelligence, by David Wechsler. ix+229 pp. Baltimore, the Williams and Wilkins Co. 1939. $3.50.

Laboratory Guide in Entomology

Anyone teaching an introductory course in entomology will want to examine the new laboratory guide prepared by Prof. Robert Matheson for the introductory course in entomology at Cornell University. This guide covers a diversified field of subject matter and presents the same in an excellent manner. Some of the topics covered are external and internal anatomy including types of mouth-parts; characteristic structures of the adults of the most important orders, and keys to families; adaptations among insects; social life; insects as pollinators; relationship to disease of man and animals; the problem of control, etc. At the end of the book there occurs a short chapter on how to collect, prepare, mount, preserve and rear insects and a short glossary of scientific terms. Many excellent drawings are found throughout the guide which students are asked to label.—*A. Peterson.*

A Laboratory Guide in Entomology by Robert Matheson, 135 pp. Ithaca, The Comstock Publishing Co., Inc. 1939. $2.00.